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Consumers Guide

VOL. II, No. 16

SEPTEMBER 1, 1936

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FORECASTING FARM CROPS

Consumer Queries and Comments

"The American farmer owes a sacred duty to the American consumer to see that he is adequately fed no matter how severe the drought. The consumer, in turn, through the Government owes it to the farmer to see that surpluses accumulated through years of good weather do not ruin the farmer."

Henry A. Wallace
Secretary of Agriculture

C "WHAT is the difference", writes a careful mother, "between cocoa and chocolate? Is breakfast cocoa really better than plain cocoa, or is it just my imagination? Does the name 'Dutch Cocoa' mean anything? And what advantage or disadvantage is there for the consumer in buying special chocolate preparations recommended for flavoring children's milk rather than making flavorings of straight cocoa or chocolate?"

ANSWERING the first question first, the difference between chocolate and cocoa lies in the proportion of cacao fat. Chocolate is made from crushing the cacao bean and keeping all of the fat in it. The fat will be at least as high as 50 percent of the total chocolate.

COCOA is the powder made from chocolate after some of its natural oil has been pressed out.

In plain cocoa there is usually about 12 percent cacao fat still remaining. By special pressures more of the fat can be removed. Chemical extraction can take almost all of the cacao fat out, but the product that results is so poor that this method is not likely to be used for making cocoa but rather for producing the fat itself which sells as "cocoa butter."

BREAKFAST COCOA keeps more of the original fat. According to Food and Drug Administration regulations, a product labeled "breakfast cocoa" must be 22 percent cacao fat, almost twice as rich as the usual plain cocoa on the market.

DUTCH COCOA and Dutch Chocolate are cocoa and chocolate treated by a special alkalizing process. The effect of the process is to make some difference in the flavor and to darken the powder. The alkaline substance must not make up more than 3 percent of the product, according to Food and Drug Administration regulations. Allowing for the addition of the alkali, Dutch Cocoa and Dutch Chocolate must meet the standards set for cocoa and chocolate.

STANDARDS of purity for both cocoa and chocolate under the Food and Drug Administration are the same. That part of the product which is not fat or moisture, shall test "not more than 8 percent of total ash, not more than 0.4 percent of ash insoluble in hydrochloric acid, and not more than 7 percent of crude fiber." This rules out the possibility of grinding up along with the cacao bean its thin husk which is something like the inner skin of pea-

nuts. Legitimately, this husk is removed, burned, and sold by the ton as fertilizer. Selling cacao shells at the price of chocolate instead of at fertilizer prices has been a tempting form of adulteration and Food and Drug Administration officers are always on the watch for it.

SWEETENED kinds of chocolate products vary widely but one point for consumers to remember about all of them is that as compared with straight unsweetened cocoa or chocolate, much of what you are paying for is simply sugar.

SWEET CHOCOLATE is chocolate sweetened and possibly flavored, with no limit set to the sugar contained, but with the standard regulations governing purity. "Milk Chocolate" must be made with whole milk and contain 12 percent of milk solids. In "sweet cocoa" it is allowable for sugars to make up 65 percent of the finished product. In "sweet milk cocoa", 12 percent of the finished product must be whole milk solids or the equivalent constituents.

REAL MALTED milk is not just malt and milk, or malt and skim milk. The malting is not mere mixing. Malted milk, like cheese and wine, is the result of something between a chemical and biological process, called "enzymic action", with the diastase or "starch-converting" enzyme doing the major part of the job by converting the starch to sugar. Food and Drug Administration enforcement officers are now carrying on a campaign to clear up the confusion in the labeling of these chocolate products.



Food Forecasters at Work

What's ahead in food supplies is important news to consumers, but before it becomes news the facts must be gathered from thousands of farms. Greatest harvesters of food facts in the country are 300,000 farmers who—without pay—collect the data on which the Government makes its food predictions.

FORECASTING food supplies is not a kind of crystal gazing. Officials of the Department of Agriculture—charged with the duty of predicting how much food will be produced—collect all current information on condition of crops and livestock and then check this information before making their forecasts. Finding out how many pigs will come to market or how many bushels of corn will be harvested in a year is no easy job when you consider the accuracy and the secrecy with which these predictions are made and that the work of the Crop Reporting Board of

*Accurately measuring crop changes from year to year was a difficult problem until an agricultural statistician invented the crop meter shown above. Now an observer using this meter can drive along the road and tick off the crops on either side. These records, where local conditions permit the use of the crop meter, supplement the information supplied by the 300,000 voluntary crop correspondents.

the Bureau of Agricultural Economics includes production estimates for about 94 percent of all farm products, or practically everything except forest products, flowers, and home gardens.

GOAL of the Crop Reporting Board in making these forecasts is the nearest approach to accuracy possible. The supply of farm products is, of course, a highly significant factor in determining prices farmers will receive. Overestimating food supplies would work hardship on farmers and indirectly on those who sell goods to farmers by causing a lower price to growers than if supply had been accurately known at the time of sale. Underestimating food production which would lead to higher prices than justified by actual supply, might result in a decreased consumption by consumers, leaving a larger carry-



No safeguard of secrecy is slighted. Even the blinds at the windows in the room where the Board meets are sealed and not unsealed until the final forecasts are ready for release.



Elaborate precautions are taken against prying eyes, too sharp ears, and easy tongues. From the moment when crop information, sent by the 300,000 farmers and Government statisticians for summarizing to the various branch offices of the Department, is received in Washington, secrecy closes in. All reports are delivered to the office of the Secretary of Agriculture and there locked in a mail box, which has two locks, one key to which is kept by a representative of the Secretary and the other by the Chairman of the Crop Reporting Board. A few minutes before the Board gathers to make the final official forecast, a Board member—accompanied by a guard—goes to the Secretary's office and there collects the contents of the mail box. Both keys must be used to release the contents.

over of the nonperishable farm products for consumption during the next year, depressing the price of the following year's crop. To leave the question of supplies unmeasured would create a fertile zone for speculators. Publication of unbiased and dependable crop reports by the Federal Government tends to prevent the issuance of incomplete and misleading reports by private agencies and tends to stabilize the market.

PRESENT scope of crop reporting activities—besides forecasting food production—covers about all phases of agricultural production.

It includes estimating acreage, yield per acre, and quantity of production of 31 staple and special crops, 22 commercial truck crops, and 18 fruit crops; estimating the number of livestock on farms; and estimating farm prices which serves as a basis for getting the money value of the production of crops, livestock, and livestock products, and for the construction of index numbers. This work also includes the collection and publication of timely information covering the progress of growing crops, intention-to-plant reports, forecasts of livestock production and special reports, the chief purpose of which is to aid the farmer in planning production and marketing. The work of the Crop and Livestock Reporting Service, then, begins with farmers' seeding and breeding plans and follows these through to the record of net results as cash in their pockets.

GOVERNMENT reporting of food supplies started in a small way back in 1839 and has grown to its present size in response to demands of producers, distributors, and consumers of agricultural products for adequate, accurate, and timely information covering the production of crops and livestock. Ample information indicates that farmers, even before 1839, were somewhat resentful of profits made by dealers and speculators through circulating misleading crop reports and through producers' lack of information on market values.

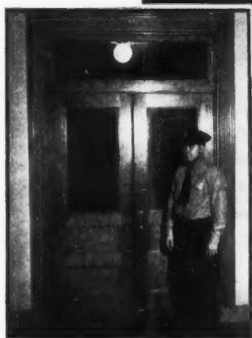
REPORTING crops and livestock received greater encouragement and attention following the establishment of the Department of Agriculture in 1862. First of the monthly or bimonthly reports on the condition of crops based on reports from voluntary crop correspondents was in 1863. Three years later, in 1866, the Department began the publication of regular reports on condition, acreage, yield per acre, and production of the important crops, and on the number of livestock. Since then the Crop and Livestock Reporting Service has grown with the country. Forecasting production of important crops prior to harvest began in 1912.

FIRST estimates or forecasts of food production for different crops and kinds of livestock are made at a time when enough evidence is available on which to build reasonably reliable forecasts. Voluntary reporters—300,000 farmers throughout the country—furnish information

for the forecasts. Questionnaires are filled out about the first of each month during the growing season and are immediately forwarded to 40 branch offices located throughout the country. Agricultural statisticians in charge of the branch offices summarize the reports for each crop and transmit the results to Washington by mail or wire. The agricultural statisticians send along with their regular reports comments on the crops in their respective States that will be of aid to the members of the Crop Reporting Board when they gather to make the actual forecast. Some farmers send their questionnaires directly to Washington.



MEMBERS of the Crop Reporting Board meet shortly after these State summaries arrive in Washington to make the official forecast. The Board considers all the evidence placed before it—the returns of the correspondents to the agricultural statisticians; the individual estimate of the agricultural statistician; weather conditions and the records of yields in previous seasons when similar conditions prevailed. After examining the data each member of the board makes an estimate—an estimate for each State—without consulting other members of the board. In case of material disagreement, the evidence is carefully reviewed until complete agreement is reached. State totals then are given to clerks who get totals and averages for the entire country. These computations are checked and the results are again reviewed by the board. Before releasing the report the Secretary of Agriculture reviews the work of the Board and gives his approval. The report is then mimeographed and is ready for release.



One-man judgments are ruled out in the Department of Agriculture system of crop forecasting, results of which affect the incomes of millions of farmers and businesses. For greater accuracy, a Board makes final judgments. Before forecasts are announced to the world, estimates of each member of this Board are reconciled. Members are conferring here on final figures. . . . Left: No one may pass in or out of the rooms in which the Crop Reporting Board meets. Guards watch the doors.

official they rush to the instruments, turn the copies over and begin transmitting the reports all over the country for publication either that afternoon or the following morning. While this is going on, the Crop Reporting Board wires the report in code to its branch offices where they are recorded on forms already set up and then copies are furnished by the agricultural statistician to all States and local papers desiring copies.

DETAILS are published in Crops and Markets. Radio reports carry the information to all parts of the country, and a year to year record is preserved in the Yearbook of Agriculture. Dates on which reports will be made are determined at the beginning of the year by the Secretary of Agriculture. These dates are made known early in the calendar year. A description of the reports, along with the dates, are published in the "List of Economic Reports and Services" of the Bureau of Agricultural Economics and can be obtained from that Bureau.

FORECASTS of future agricultural supplies, if known in advance of publication, could be used unfairly for speculative purposes, so

AFTER a report is approved by the Secretary and about one minute before the time set for its release, copies are carried by the chairman of the Board to an adjoining room and placed face down before a dozen telephone and telegraph instruments. Members of the press stand about 3 feet behind the instruments. At the stroke of the clock, and on a signal from an



One minute before 3 o'clock and the final grain forecasts are ready for broadcasting to the world. Copies of the approved report, which the Secretary of Agriculture has reviewed after the Board has finished its work, have been carried under guard to the press room and laid face down beside telephones and telegraph instruments. Sharp on the stroke of the hour, newspaper men rush to the telephones and telegraph to announce the results.

these forecasts are made with every possible safeguard to prevent advance information from being obtained or utilized by unauthorized persons. Stringent laws were enacted by Congress in 1909 to prevent premature disclosure of the contents of crop reports which might upset market value of the speculative crops.

WORK of making the forecast is so systematized and arranged that no single individual knows what the forecast for any crop will be until the final computations are made and approved behind locked and guarded doors, and then only a short time before the report is made public. Reports from the State agricultural statisticians are separated from other department mail in the Washington city post office and sent by special messenger to the Secretary of Agriculture where they are placed in a steel mail box locked by two separate locks, one key in the possession of the Secretary and the other in the possession of the chairman of the Board. On the morning of the report this box which now contains the tabulations of questionnaires and the State summaries sent direct to Washington by crop correspondents, are taken under guard to the crop reporting rooms, the doors of which are immediately locked and guarded. While the report is being made, all telephone, buzzer, and other communication is turned off. There can be no

communication with the outside. Under this arrangement no one has access to sufficient data to even approximate the final figures until the board assembles and the doors are locked.

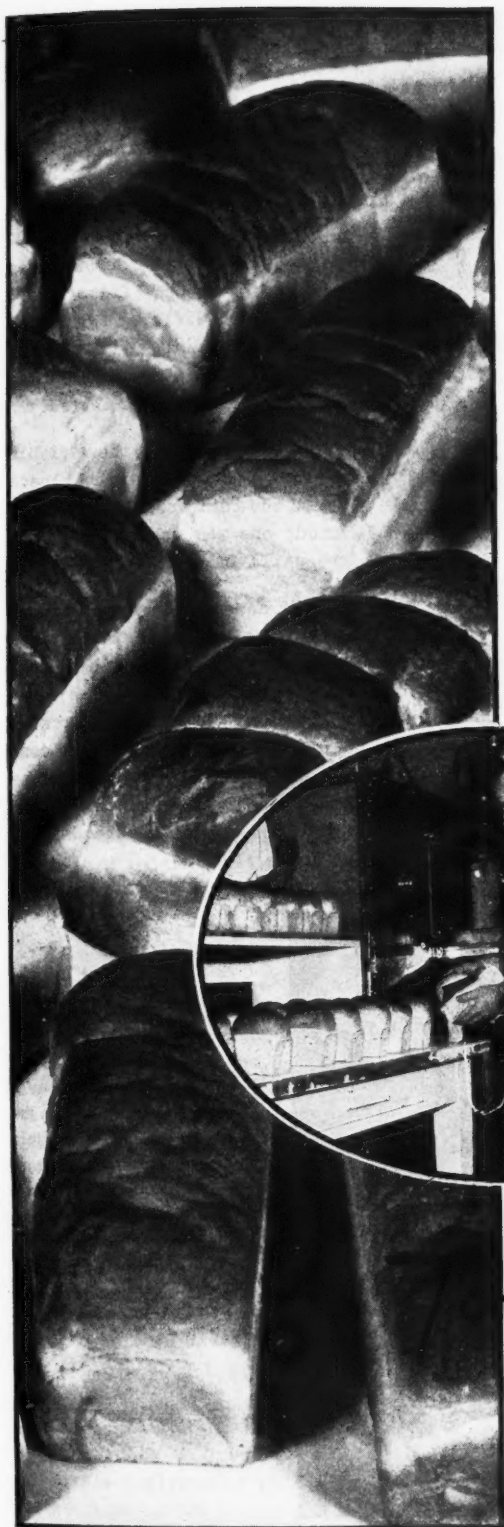
INFORMATION collected from the voluntary reporters is basic data, but is carefully checked before the forecast is made. The Crop Reporting Board makes every effort to develop and use data collected by other agencies to verify the accuracy of the official forecasts and to supplement the usual sources of information. Most important check data includes the census taken every 10 years; an actual count of bales of cotton ginned during the year made by the Bureau of Census; railroad shipments of crop and livestock; and reports from sales agencies and associations handling major portions of certain crops. Crop meters—invented by an agricultural statistician in 1925—are now widely

used by agricultural statisticians to obtain additional information within their respective areas.

CROP REPORTS are used by handlers and consumers of farm products and by those who provide products and services needed by farmers, and are of value to nearly everyone in the United States. Farmers' cooperative organizations, dealers in agricultural products, sales departments of industrial concerns that sell farmers everything from soap to automobiles, bankers who finance movements of crops and livestock, and railroads, all use the reports in some way.

BANKERS use the reports as a guide to the demand for funds that they will be called upon to advance for financing farmers through the producing and marketing season. Railroads use the reports as a guide in allocating freight cars. The better the distribution of cars, the better the service to the farmer. Manufacturers, merchants, dealers, and business men use crop reports in planning their operations so that the machinery, farm equipment, and supplies will be available to farmers when and where needed. The sales organization of automobile manufacturers

[Concluded on page 17]



"The Frenchman," writes a consumer to a British Trade Journal, "eats a lot of bread because when it is good and made with the correct flour it is nice to eat." Government experts here are examining factors affecting the flavor of bread to determine, if possible, bread flavor preferences of consumers in this country.

BEHIND the scenes at the United States Department of Agriculture a group of experts in cereal chemistry have been working for some time on the problems of bread, especially those problems having to do with flavor. Chemists from three Department Bureaus—Home Economics, Chemistry and Soils, and Agricultural Economics—joined forces to seek the answer to the following question: What specific factors in bread baking have a definite effect on the flavor of the loaf?

GOOD reason for a study of bread flavor exists. Many experts agree that one of the chief causes for declining bread consumption during the past 2 decades may have been the gradual change in flavor. Some of this change may be due to new varieties of wheat, new methods of milling, or new methods of baking. If studies at the Department of Agriculture can point out which ingredients and

toward Better

BREAD FLAVORS

which methods of milling, bleaching, and baking involved in making a loaf of bread have the strongest influence on its flavor, a step will have been taken toward improving the flavor and possibly increasing the consumption of this basic food.

FLAVOR is no easy thing to measure scientifically. What some people consider a fine flavor others regard as mediocre, or even intolerable. Chemists, seeking a fairly reliable expression of opinion, have to rely on human beings for their tests. No one has yet invented a machine that registers a smile for a pleasing flavor or a frown for a flavor that is not so pleasing.

MESSANGER BOYS, stenographers, statisticians, technicians, executives—96 of these people from 3 Government bureaus were enlisted for the bread flavor inquiry. As a group they were believed to be reasonably representative of consumers in general. Once a week for 7 weeks the judges tasted "sandwiches" cut from 3 different types of bread. The sandwiches were quite plain, made of bread alone, and served without butter or marmalade. But the judges had one consolation: testing time came just before lunch:

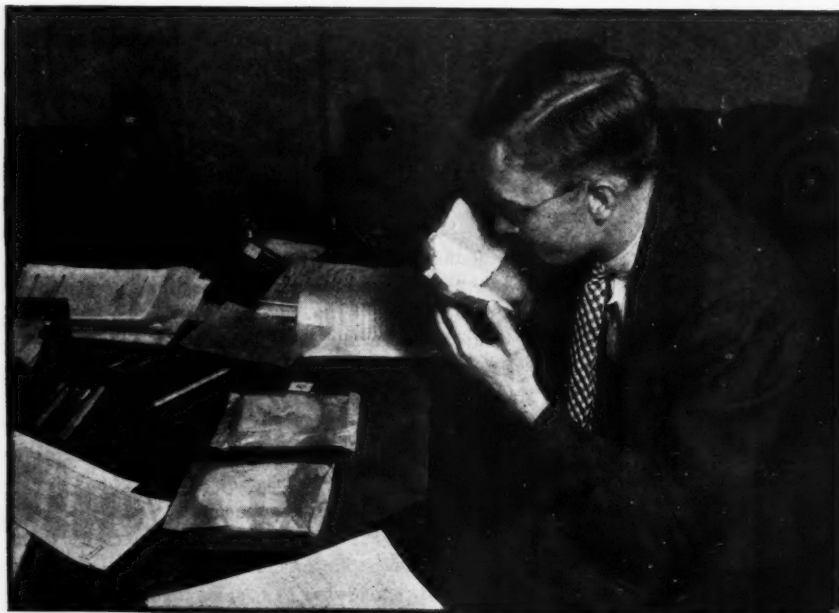
EACH week the chemists supplied the flavor judges with breads baked so as to test a different factor. In the first week, for example, the 3 types of loaves were baked from 3 different

classes of wheat—soft red winter, hard red winter, and hard red spring. Each judge smelled and tasted a sample of bread baked with soft red winter wheat, then rinsed his mouth. After a few minutes the test was repeated on the second type of bread. Then another rinsing and another test. On a score card the judge indicated the bread he considered to have the best flavor.

NEXT week the 96 judges brought out their score cards again and recorded their flavor preferences on breads baked with 3 different grades of flour—straight, 85 percent patent, and 70 percent patent. Patent percentage tells how much of the total flour in each grain of wheat was milled.

ANOTHER week bleaching was the variable factor, and 3 different flours from the bleach point of view went into the test breads. Two were commercially bleached; one was unbleached. The patient judges were still on the job.

FERMENTATION and baking temperatures were the next factors to be singled out for testing. Breads the following week were baked by the sponge and straight dough methods. Another week three different types of formulas went into the bread—lean, medium, and rich. (A "rich" formula contains more sugar, shortening, and milk than a "lean" or "medium" formula.) The seventh week the judges tried their flavor senses on breads that were 12, 24, and 48 hours old.



To the desks of judges in the Department of Agriculture came these three packages of bread, each baked with a different grade of flour. Each flavor judge tasted and smelled the samples and recorded his preferences on a score card.

Each of the three bread samples was baked according to a different formula—lean, medium, or rich. A sip of water between samples made the sense of taste more acute.



TASTING started all over again a few weeks later and repeated the whole series of 7 tests. The chemists felt that this repetition would give a good check on the results, by showing how many of the judges would indicate the same preferences twice. In some instances the score cards of the judges were consistent. In others there were pronounced differences in the results of 2 sets of tests, showing the variableness in the human yardstick used.

SIGNIFICANT choices came through in a few of the tests. The grade of flour test, for example, showed a choice in favor of 85 percent patent flour. In the duplicate tests the judges preferred the sponge method, higher fermentation time and lower baking temperature. Rich won out over lean and medium in both series of tests for formula. But the committee pointed out that "this preference for the rich formula was not necessarily to be interpreted as meaning that the rich formula would meet best with consumer acceptance for any considerable period of time, especially when eaten with other food." Finally, the 96 judges registered a distinct preference for the odor and flavor of bread only 12 hours old, as opposed to bread 1 or 2 whole days out of the oven.

SIXTEEN of the 96 judges had had previous experience in judging the quality of bread. A separate analysis of their preferences corroborated those of the larger group. In general the

results of the second series of tests checked about 45 percent of the time with the first series.






ON examining the findings recorded by the 96 tasters, the jury of cereal chemists felt the results to be only preliminary. Now they are planning a new series of tests on a basis which may yield more definite conclusions. The new panel of judges will not admit people who dislike the odor or taste of bread, who have a poor sense of taste or smell, or who are subject to frequent head colds. The reasons are obvious.

WEEDING out process will go still further. Candidates for the job of bread taster will have to prove first that they are keen tasters of the degree of sweet, salt, sour, and bitter in chemically pure solutions of sugar, table salt, lactic acid, and caffeine. Given numbered solutions of increasing strength, the candidates must indicate at which point the taste becomes very faint, faint, easily noticeable, strong, and very strong. Prospective bread tasters who reverse their judgments in a duplicate solution test will be disqualified.

TASTERS will then try breads made with different quantities of sugar, salt, lactic acid, and caffeine, and will rank the breads according to increasing amounts of the substance used. Then comes another weeding out for those who change their estimates on a duplicate test.

[Concluded on page 17]

PROTEINS IN SOME COMMON FOODS

FOODS	CHIEF KINDS OF PROTEIN PRESENT	COMPLETE
 ALMONDS	EXCELSIN	COMPLETE
 CHEESE	CASEIN LACTALBUMIN	COMPLETE COMPLETE
 EGGS	OVALBUMIN OVOVITELLIN	COMPLETE COMPLETE
 LEAN MEAT	ALBUMIN MYOSIN	COMPLETE COMPLETE
 MILK	CASEIN LACTALBUMIN	COMPLETE COMPLETE

Body Builders

WHEN NUTRITIONISTS talk of two foods having protein, they are not necessarily saying those two foods have the same constituent. For the name "protein" covers not just one thing but many. You can give protein to two sets of laboratory animals. All the animals in one set may grow well, and all the animals in the other set may not grow at all. Yet they both got protein. The secret is in the different things different proteins are made of.

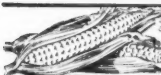





PROTEINS are all related because they are all combinations drawn from the same set of possible materials, but drawn in different proportions. These materials are "amino acids" (pronounced a-mee-no). Science has identified 21 of these amino acids. Some proteins have all 21, some less. Two proteins with the same amino acids may be different because of the different pattern of amino acids in the composite picture. A closet full of clothes may look somewhat related if every garment has been cut from combinations of the same few bolts of cloth. But even though they all serve the general purpose of clothing a person, some garments will be more essential and more effective as clothing than others, depending on the qualities of the materials that form the major parts of their design.

JOBS done for us by these amino acids are fundamental to life. Since providing the materials for growth is one of them, special attention in the matter of protein properly goes to

people of growing age. Proteins do merely a maintenance job for grown people under ordinary conditions. But those whose development is on its way must have protein not only to keep them in condition but to make into new cells. Also, to save the protein for its important constructive purposes these people must get plenty of other foods for fuel because if there is not enough fuel food to see a person through his energy requirements his body will steal his protein for fuel, which would be something like taking the mahogany pieces from a cabinet and using them for firewood. But this is a last resort of the body. Proteins are not its choice as fuel. For in order to make proteins into proper burning material it has the job of separating out the parts of the protein it can use and discarding the rest. As fuel for real athletic exercise carbohydrates top the body's preferred list. But nothing can take the place of amino acids for building new tissues and replacing worn ones.

SOME AMINO ACIDS are more important than others. If the protein in a food lacks enough of one amino acid called "cystine", that protein can't make an animal grow no matter how many other amino acids are in it. If a rat gets all the amino acids known except cystine, he seems healthy, enjoys life, does not get sick, but he doesn't grow very much and can't graduate from baby hair to the sleek shining coat that a rat should have in his prime. Give him a bit of cystine and he goes right to work showing what

PROTEINS IN SOME COMMON FOODS 2

FOODS	CHIEF KINDS OF PROTEIN PRESENT	INCOMPLETE
 CORN	GLUTELIN ZEIN	COMPLETE INCOMPLETE (LACKS LYSINE AND TRYPTOPHANE, LOW IN CYSTINE)
 GELATIN	GELATIN	INCOMPLETE (LACKS TRYPTOPHANE AND TYROSINE; ONLY A TRACE OF CYSTINE, HIGH IN LYSINE)
 NAVY BEANS	PHASEOLIN	INCOMPLETE (LOW IN CYSTINE)
 PEAS	LEGUMIN	INCOMPLETE (LOW IN CYSTINE)
 SOY BEANS	GLYCININ LEGUMELIN	COMPLETE INCOMPLETE
 WHEAT	GLIADIN GLUTENIN	PARTIALLY INCOMPLETE (LACKS LYSINE) COMPLETE

How science is getting the facts on proteins as Number One building material for growing and repairing body tissue

was wrong before. When a young rat is forced to get its only protein from corn, it not only does not grow but actually loses weight. If it then gets a bit of one of the lacking amino acids called "tryptophane" it stops losing weight but still does not grow. What is still wrong is that "zein", the corn protein, also lacks another amino acid called "lysine." Put a little lysine in the diet and the rat starts in growing right away.

"COMPLETE" proteins are the ones that combine all the amino acids necessary to make a body grow. If they are only sufficient to keep it in a stationary state of health without growth nutritionists call them "partially incomplete." They are "totally incomplete" if they cannot keep a body alive.

INCOMPLETE proteins can often do a major share of the protein work if they have a bit of expert help from the specially important proteins. Milk is one of the best of these supplementers. One bunch of growing pigs ate only corn with its incomplete protein "zein." Another group ate corn and a little casein, which is contributed by milk. That little extra dose of complete protein made it possible for the pigs who got it to gain an average of 111 pounds apiece in 6 months, while the ones with just the corn gained only a little over 12 pounds in the same time.

MORE SECRETS are still to be learned about the amino acids in proteins. Try to make a

protein synthetically from all the chemicals known to make up the combination of amino acids in a complete protein. Provide for all the needed minerals and vitamins. Feed this diet to your laboratory animals and they won't grow. The answer seems to be that the natural providers of "complete" proteins actually provide something else along with the 21 known amino acids—perhaps another amino acid yet to be identified. That job is still on the scientific agenda.

MEANWHILE, young consumers need not wait for the day when perfect proteins come out of test tubes. Animal foods like milk, eggs, and cheese, and all kinds of lean meat—"fish, flesh, or fowl"—give us complete proteins even without our knowledge of what makes them complete. Nuts are very rich in protein but their high quota of fat along with it rules them out as a practical source of very much of our supply of protein. Cereals don't offer a very rich supply, and what there is of it is not such high-grade protein, but because they are a cheap food of which we eat a large amount they rank as an important way of getting protein. Other cheap and pretty rich sources of protein are the legumes, particularly peas, beans, and peanuts. The less complete proteins that come in these cheaper foods can be helped over the line into the complete class by adding milk. For children and growing people a quart of milk a day guarantees a full quota of protein and leaves the choice of other foods to rest on other bases.

MEASURING changes in consumers' fortunes only by the ups and downs in consumer income is like rowing a boat with one oar—you might get ahead, but the chances are you will move round in circles. Income is important only in terms of what it will buy—the amount of food, pairs of shoes, gallons of gasoline for the family car. Income can mount, but if living costs step up at the same time by an equal amount consumers are right back where they started. Consumers' gain comes when income steps up faster than cost of living. The direction and the degree of movement both of money income and cost of living during any particular period is the measure of consumers' real income.

ECONOMISTS use index numbers as yardsticks to measure changes in income and costs. In constructing these yardsticks, a starting point is needed from which to measure ups and downs. For the present study, averages for the years 1924-29 are taken as the starting point against which changes are to be measured because this period includes "fat" and "leaner" years. For both income and living costs the averages for 1924-29 stand at 100. Incomes and living costs in each later year or month are figured as percentages of 1924-29.

FIRST TASK in measuring consumer incomes was to select a yardstick representative of the greatest number of consumers. Before writing this story different measures of consumer income were investigated to find a yardstick which showed current changes and which was typical of the income of an average consumer. Some yardsticks were not up-to-date so could not be used. Others were too limited to be representative

SOURCES of urban consumer income include factory pay rolls, salaries, Government pay rolls, profits, rents, interest, dividends, royalties, and relief payments. One income yardstick prepared by the Department of Agriculture measures current changes in total income of urban consumers from these combined sources. A second income yardstick measuring changes in total factory pay rolls is based on figures collected by the Bureau of

Measuring Changes in

Labor Statistics. This yardstick gives an estimate of the income of approximately one-fifth of the total nonfarm working population.

MONEY INCOME of urban consumers—as measured by the first of these two yardsticks—in July of this year was 41 percent greater than urban consumers' income at the low point of the depression in March 1933, and 22 percent larger than the average monthly income in the year 1932. While this income has climbed up many rungs in the ladder from depression lows, it still stood in July 1936 at 25 percent below the predepression peak reached in September 1929 and 18 percent below the base years 1924-29.

FACTORY WORKERS' income has made an even greater recovery but it has been a recovery from a lower level than urban income in general, because factory pay rolls were slashed more severely during the depression. In July 1936 factory pay rolls were more than twice as large as they were in March 1933. Expressed as a percentage, they were 123 percent greater than in that lowest month and 75 percent greater than the average monthly pay rolls during the year 1932. In this latest

NATIONAL NON-FARM INCOME



Consumers' Real Income

What consumers can buy—not just how much money they earn, nor what things cost but a combination of these two—measures whether consumers are getting ahead or falling behind. Consumers' real income in July 1936 is here stacked up against depression and pre-depression real incomes.

month, July 1936, factory pay rolls were 28 percent smaller than in September 1929, the high point reached before the depression, and 21 percent below the 1924-29 average.

PAY ROLL FIGURES refer, of course, only to incomes of employed workers. Bigger factory pay rolls may mean higher wages for the same number of workers; they may mean more workers employed, each earning the same amount or less than before; finally, they may mean both higher wages and more workers employed.

SOCIAL gains come when more people share in increased earnings. More people have been sharing in this upswing in factory pay rolls. From the low point in March 1933, the number of

people with jobs in factories has swelled until in July 1936 there were 49 percent more so employed.

IN the downswing from "prosperous" years, pay rolls were slashed much more severely than was employment. On the upswing pay rolls have been increased at a greater rate than has the number of workers with factory jobs. While July 1936 pay rolls were more than double the size of March 1933 pay rolls, factory em-

ployment in July 1936 was only about 50 percent greater. Compared with a peak month like September 1929, however, employment in July 1936 was closer to the former level than were pay rolls. Employment in factories then was within 20 percent of the September 1929 figure, while factory pay rolls were still 28 percent below the September 1929 level. Stacked up against the base years, 1924-29, employment was 12 percent and pay rolls were 21 percent under "par."

RECORDS of gains such as these do not tell the whole story. Of course if all types of enterprise had shown the same degree of recovery as has the manufacturing industry, the problem of unemployment would now be relatively easy. Population today is greater than in 1929 or than in

the base years 1924-29. Unemployment and low wages still are a national concern. Just how severe problems they are can be measured only when more adequate data are available, but the load carried by the Works Progress and Public Works Administrations is an indication of their importance. Employment under the Works Program stepped up from about 3,000,000 persons in May to approximately 3,120,000 in June. Total pay rolls were \$150,700,000 in May against \$152,700,000 in June. Projects financed by PWA also showed gains during June. Employment at the site of construction and pay rolls stepped up from 315,000 persons and \$22,590,000 in May to nearly 350,000 and \$25,840,000, respectively, in June.

COMPARISONS in the relief load which the Government is carrying,
[Continued on page 22]

TOTAL LIVING COSTS





Many agricultural experiments have been carried on in this building by workers of the Florida Experiment Station.

Science at Consumers' Service

State Experiment Station experts turn their spotlights on problems of American homemakers in their work as family buyers and manufacturers of family food and clothing

COOKS who yearn to turn out the kind of angel cake that puffs its chest out and makes the family shout for more had better look to their altitudes before they mix their batters.

ALTITUDE, home economists of Colorado have discovered, can make or break their angel cakes. Recipes that work like charms in the lowlands go all awry up in the mountains. Homemakers have discovered this fact from practice. Home economists believe they have discovered one reason why. It is that sugar added to flour and egg white behaves differently at different distances from sea level.

ANGEL cake maxims should now include the rule that with a given amount of flour and egg white, the sugar content must be decreased with increases in altitude. In fact, the experimenters found that if you want to make a cake of satisfactory texture at a height of 10,000 feet you can't use any sugar in the mix.

NO TREK over the Rockies was required to carry out the tests that revealed this useful-to-homemakers rule. Investigators did all their baking at the unique altitude laboratory of the Colorado State Experiment Station.

SUPPORTED by State and Federal funds, manned by outstanding scientists, specialists, and teachers, these stations every day carry on

research in the interest of farmers and consumers. With the aid of the State agricultural colleges, they study ways to improve crop production and products. They conduct experiments aimed at improving animal production and products. They work in every possible way to improve rural economic and social conditions.

NEWS about experiment station work generally reaches consumers by newspaper, magazine, or radio. County home demonstration agents carry the news to farm homes. Numerous station publications help to convey useful facts to people who want them. During 1935 the various station staffs issued 864 different bulletins, and published almost 1,800 articles in 69 technical and scientific journals. Recently the Office of Experiment Stations of the United States Department of Agriculture issued a Report on the Agricultural Experiment Stations for 1935. Much of the information contained in this report has to do with direct consumer problems.

FOODS, nutrition, and household management are some of the subjects covered by work in experiment stations all the way from Washington and California to Florida and Maine. Even the humble potato has come in for its share of study.



Dairy barn at the New Jersey Experiment Station.



The Federal Government, too, has its experiment Station. One of the buildings of the U. S. station at Beltsville, Maryland.

Workers at the Maine Experiment Stations tried to find out what it is that makes some potatoes mealier than others. The experiments were extensive, but the results can be given in a few words. Fertilizing the soil with potash apparently yields the most mealy potatoes. Potash scored again when the Ohio Station studied the taste angle, and found that potatoes fertilized with this mineral were of particularly good flavor.

POTATO OUTSIDES frequently slough off and go to waste when they are cooking, because the outside part cooks more quickly than the inside. Investigators in Wyoming tried to discover what was needed to grow a potato that would cook evenly. The answer lay in irrigation. Repeated tests showed that potatoes grown on irrigated soil would cook more evenly than dry-land potatoes. In trying to find the reason, scientists photographed thin slices of the potatoes under the microscope. Chief observation was that in dry-land potatoes the cells near the outside were much larger than those in the center. Here the problem rests for the moment, but it is easy to imagine the future possibilities for cutting down guess work in judging potato quality. These possibilities will come very near realization if further study shows definitely that you can judge the quality of a potato by the relative size of its cells.

SOUTHWESTERN families who eat pinto beans may wonder why the beans sometimes are not as palatable as they might be. The New



Above: Model hen houses at the Alabama Experiment Station.

Below: Some buildings at the Wyoming Experiment Station, scene of studies in cellular structure of dry-land and irrigated potatoes.





Experimental rhubarb field at the New Jersey Station.

Mexico Station thinks it has found the secret in the hardness or softness of the cooking water. Apparently the harder the water, the more difficult the cooking process. The Station recommends to consumers that they boil hard water before using it, and use only enough to cover the beans. Further recommendations include soaking the beans in hot water, cooking in a kettle with a close-fitting cover, and using soda to soften the skins and shorten the cooking time.

PRESERVATION of foods is another of the general problems studied at many experiment stations. Many people know that corn meal loses fat and deteriorates considerably during hot summer weather. Experimenters at the New York State Station sought a way to avoid this loss. They found that the best place to store corn meal was in an ice box. If that's not possible the meal should be dried out thoroughly and kept in closed containers.

CURED MEATS like ham and bacon do not spoil as readily as fresh meats but they do develop mold. Workers at the Iowa Station found a simple way to hold this mold in check: The good old ice box. Keeping cured meats in covered containers holds shrinkage down to a minimum. Further studies on the care of meat in the home refrigerator showed that paraffin paper is good for storing bulk sausage, parchment paper for sausage in casings. Either a paraffin paper wrapping or a covered container will keep dried beef from shrinking. Ready-to-serve meats, since they spoil quickly, should be stored in the

coldest part of the ice box, for as short a time as possible, says the Iowa Station.

HOUSEWIVES have often wondered why jelly recipes, though carefully followed, occasionally fail to produce a good jelly. With the use of a jelmeter, a measuring instrument developed at the Delaware Experiment Station, jelly making becomes a little more scientific and a little less dependent on luck. A jelmeter makes it easy to know exactly how much sugar to add to each pound of fruit juice in order to bring jelly to the proper consistency.

MANY homemakers depend on canned tomato juice to furnish their families with the daily quota of Vitamin C. Their confidence is apparently well placed in this convenient and inexpensive source of the scurvy-fighting vitamin. The Massachusetts Experiment Station conducted tests on a number of commercial brands of tomato juice and on one single brand over a period of 3 years. With but one exception, all the samples tested were good sources of Vitamin C. One further point came out of the Massachusetts study. Tomato juice is not quite as rich in Vitamin C as orange juice. Hence it takes more tomato juice than orange juice to provide any given quantity of Vitamin C.

TOMATO juice cocktail, unlike the straight juice, is not considered a good source of Vitamin C. Guinea pigs at the University of Maine who had to depend on the cocktail for their Vitamin C contracted scurvy. Animals receiving orange juice or tomato juice showed no such symptoms. Cocktails are O. K. as appetizers, but for vitamins consumers should stick to the juice alone.

SPINACH, long respected as a food source of iron, is only 20 percent efficient in making its iron content available to the body. Navy beans offer 60 percent. Soybeans, a little more generous, offer 80 percent. Egg yolk heads the list with 100 percent of its iron content in available form. But in considering the actual amount of iron available in any particular food, consumers should, of course, bear in mind the total iron content in that food. Figured that way, spinach still demands respect. Tests at the Wisconsin

Experiment Station furnished these facts. Now stations in Mississippi, Georgia, and New Mexico are investigating sorgo and sugarcane sirups, collards, turnip tops, and pinto beans as sources of iron.

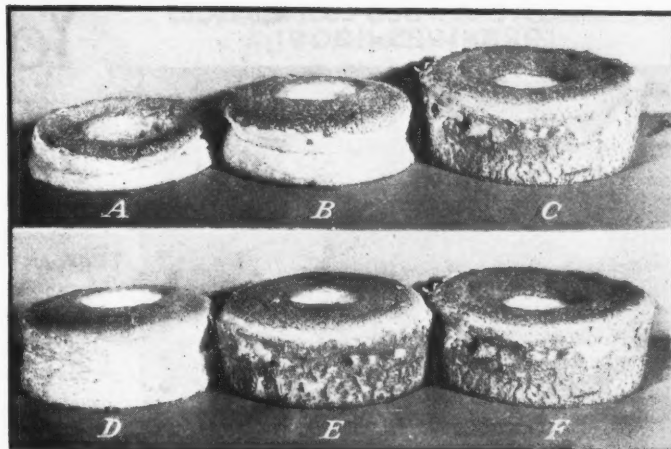
HOMEMADE bread may win the family vote for flavor but what of the cost? Forty farm households in various parts of Vermont recently cooperated with the State Experiment Station in getting the answer to the relative cost of bakery-baked and home-baked bread. In 55 percent of the homes, housewives baked their own bread. Commercial bakers supplied 12 percent of the homes with most of the bread used, and 33 percent of the homes with all the bread used. Average cost of bakery bread was 7.8 cents per pound. Not counting the time it took to make the bread, it cost these housewives about 4.3 cents per pound for the homemade product. Further calculation showed that \$4.01 would pay for all the "bought" bread used by an average household in 4 weeks, while \$2.21 would buy the same amount of homemade bread. Since the saving is only a little over 6 cents a day, and since most of the homemade bread was of rather poor quality, the Vermont investigators recommended that decisions as to home bread baking should take into account "the monetary return, the pressure which the purchase of necessary or desirable goods and services places upon the cash income, the quality of bread which can be made, and the available time of the homemaker and her helpers."

FOOD FORECASTERS AT WORK

[Concluded from page 6]

uses the reports as an index of farmers' buying power. One small circus often uses the reports in planning its itinerary. As a result of using these reports, business men avoid costly and annoying delays and to the extent that they avoid losses, they cannot only give more efficient service, but can afford to sell at lower prices.

TO THE individual farmer these reports serve three useful purposes; first, as a means of keeping informed concerning the condition and prospects of crops in which he is interested; second, as a means of judging when to market his crop; and third, as a means of judging whether



Cakes A, B, and C were all baked according to the same recipe, correct for sea level by the Colorado Experiment Station. Cake C was actually baked at sea level, but A and B were baked at 10,000 feet and 5,000 feet, respectively. Cakes D, E, and F were baked at the same altitudes as those immediately above, but with the recipe corrected for sugar content.

it will pay him to make a change in his crop plans. This country is so large and has such a diversity of climates that grain of some kind is planted in every month of the year and potatoes and some other vegetables have nearly as long a season. When crops in one section of the country show signs of failing farmers elsewhere, if informed in time, can increase their plantings. In some cases farmers can increase production of crops already planted by giving them extra care.

SPECIAL SERVICE is performed by the Crop Reporting Service in the case of emergencies—the World War, the Mississippi flood of 1927, the depression, and droughts. During the war it was more essential than ever before to know the existing condition and future prospects of important food crops. A similar service was performed during the depression following widespread disaster to crops by providing complete agricultural statistics on production, essential to any program of agricultural relief.

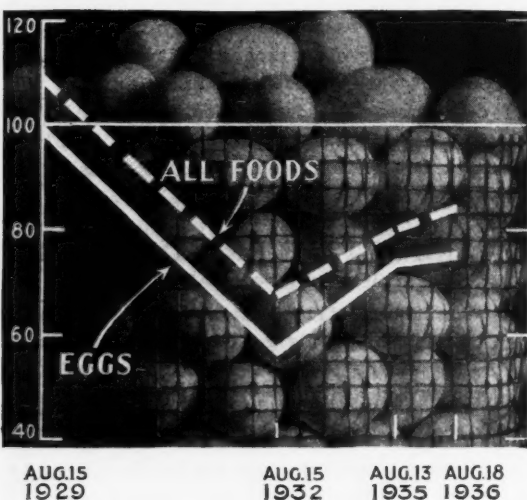
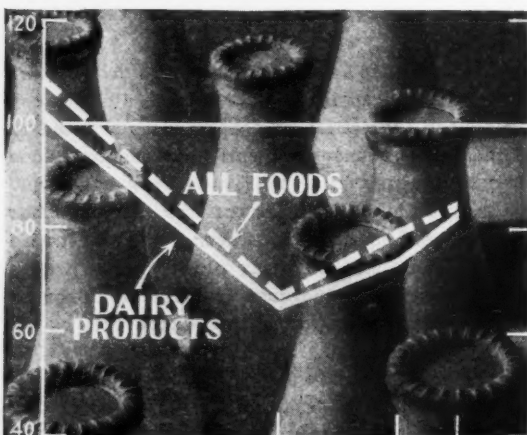
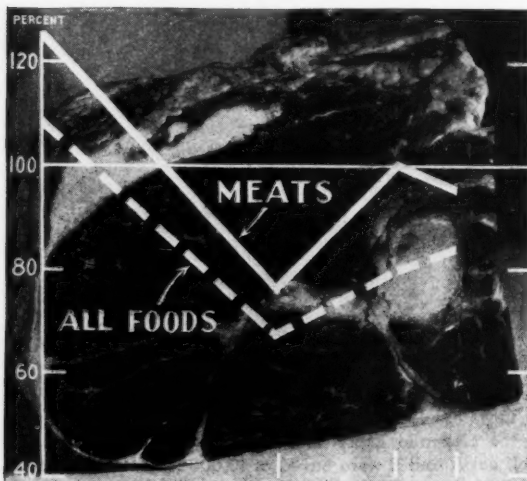
TOWARD BETTER BREAD FLAVORS

[Concluded from page 9]

JUDGES still in the running at this point ought to be pretty good at tasting flavors. For the new series the panel will include only 60 judges—20 from each of the 3 cooperating bureaus.

SOON the ovens of the Bureau of Agricultural Economics will be busy baking 24 loaves of bread 1 day each week for the next flavor tests.

A PERSPECTIVE OF FOOD COST CHANGES 1923-1925=100



Your Food Costs

RETAIL food costs remained unchanged from July 14 to August 18 as sharp declines in fruit and vegetable prices canceled the effects of price advances in all other food groups. The offsetting effect of lower fruit and vegetable prices was practically a repetition of the situation from June 30 to July 14, so that food costs in general have declined 0.3 percent since the end of June. This decline has occurred in spite of rapidly advancing prices for eggs and dairy products and moderate increases in meat prices.

SHARP decline in fruit and vegetable costs was primarily due to lower potato prices, even though most other fresh fruits and vegetables registered price declines. Potatoes occupy an important position in the food index, and it was thus primarily lower potato prices which prevented food costs from advancing just as it was primarily higher potato prices which caused the index to advance in May and early June. While average food costs for the United States failed to change, advances were registered in the drought affected West North-Central and West South-Central States but these increases were offset by declines in the Mountain and New England States.

INDEX of retail food costs on August 18 as reported by the Bureau of Labor Statistics remained at 84 percent of the 1923-25 average, the highest level for this date since 1930. Costs were about 6 percent higher than a year ago but they were 29 percent below August 15, 1929.

EGGS and dairy products registered the largest increases in cost during the 5-week interval with small advances occurring in fats and oils, cereals and bakery products, and meats. Only dairy products, eggs, and fruits and vegetables were higher than at this time a year ago. Comparing present costs with the depression low point reached in 1932 and the previous high point reached in 1929 it appears that dairy products, eggs, and fats and oils are close to the halfway mark between the two dates. Fruits and vegetables are about one-third of the way up from the low point, meats and all food costs two-fifths, and cereal and bakery products about seven-tenths of the way up from the 1932 low.

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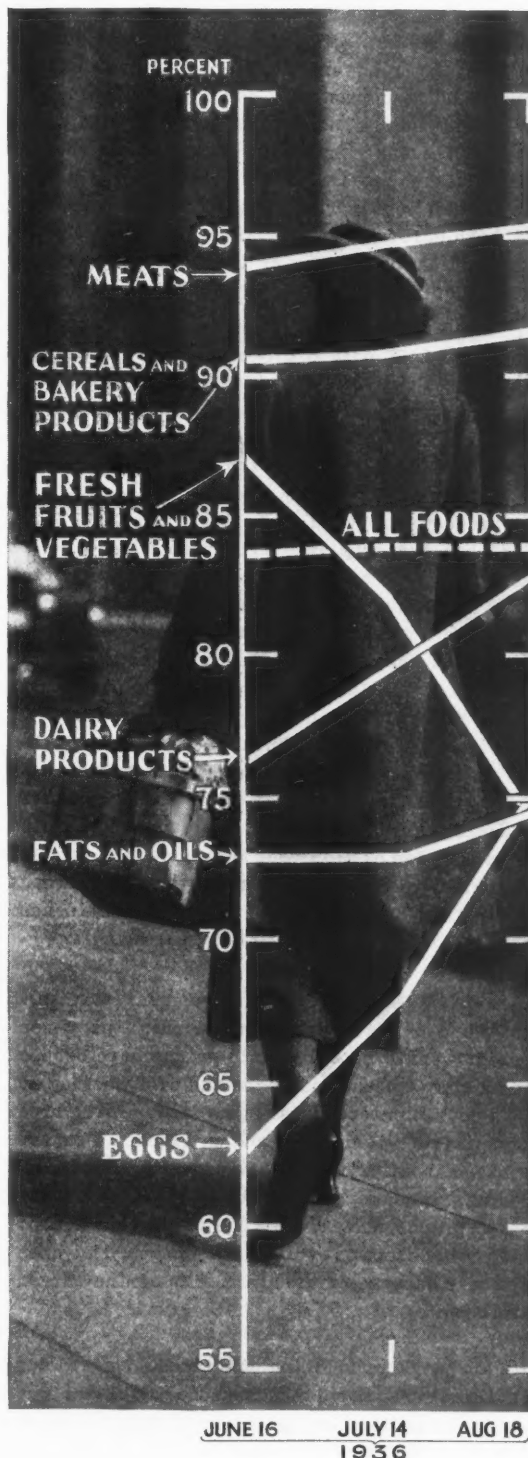
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COST of dairy products went up 4 percent as all items advanced, with fresh milk exhibiting the smallest change and butter and cheese the largest. Higher beef and pork prices more than offset lower lamb prices, and so the cost of meats in general advanced 0.5 percent. Bread and flour led the price advance of practically all cereals and bakery items, which were 1 percent higher. Fruits and vegetable costs, as a whole declined 8 percent during the 5-week period but only the fresh items were lower in price. Prices of canned fruits and vegetables and dried fruits advanced as drought cut down supplies of vegetables for canning, and fruit prospects appeared to be below average due to spring frosts.

FARM prices moved up sharply from mid-July to mid-August to reach their highest level since June 1930. This marked the third successive monthly increase in farm prices. Since mid-May the index of farm prices has advanced 20 percent to reach 124 percent of its pre-war level. Drought conditions were primarily responsible for the increase although part of the changes in prices of eggs, dairy products, and meats were usual seasonal movements. Corn and wheat prices led the upturn, corn prices jumping 24 cents per bushel while wheat advanced 11 cents per bushel. Fruits were the only food group to decline in price, and potatoes, apples, chickens, and lamb were the only individual products to register price declines. All food items were above their August 15, 1935 level with the exception of hogs, cattle, and eggs. This sharp increase in price was not all gain for farmers since they had less products to market and had to pay higher prices for feed.

PROSPECTIVE food supplies available for consumption per person from July 1, 1936 to June 30, 1937, appear to be about $3\frac{1}{2}$ percent below supplies in 1935-36 primarily due to the drought. This per capita estimate is slightly different from the estimate of total supplies reported in the July 13, 1936, issue of the GUIDE because the latter figure has been adjusted for crop deterioration during July, and for the yearly increase in population. Per capita supplies of meats, poultry, eggs, rice, canned fruits, fresh vegetables, peanuts, and wheat are expected to be about equal

A CLOSE-UP OF FOOD COST CHANGES
1923-1925 = 100



to or slightly larger than supplies a year ago. Lard supplies should be considerably larger with dairy products and canned vegetables 6 and 10 percent smaller. Major shortage appears to be limited to Irish and sweet potatoes which are down 20 to 25 percent and per capita supplies of fresh and dried fruits which are expected to be 15 to 20 percent smaller. On the basis of this report there appears to be no need for alarm on the part of consumers as to shortage of supplies, although careful buying will be necessary during the first half of 1937 when the full price raising effects of the drought will be felt.

LATE potato prospects improved during late August and early September as rains fell in the important northern potato producing States. On August 1 the late potato crop was estimated at 75 million bushels below the 319 million bushel crop of 1935. These improved growing conditions may cause some upward revision in the 1936 estimate, but the crop is still expected to be well below last year's level. Lower potato production this year is due in part to a voluntary 10 percent reduction in acreage made by growers because of low prices the past two seasons, and in part to low yields resulting from drought conditions during planting and early growing season. Late potatoes comprise the bulk of present supplies and beginning in mid-September will be the only market supplies until shipments from the early producing areas commence in January. Despite the small size of this year's late crop old potato shipments to the end of August were 45 percent larger than a year ago as higher prices induced farmers to ship earlier than a year ago.

RETAIL potato prices went down 0.5 cent to 3.6 cents per pound during the 5-week period. While retail potato prices have dropped over a cent a pound since the end of June they are still double prices a year ago. Lower farm prices accompanied this decline and on August 15 farmers received about \$1.28 a bushel for potatoes, about 13 cents less per bushel than during mid-July. Potato prices should continue to decline seasonally until October at which time an upward movement may occur because of the small size of the current late crop.

EGG production continued downward during August but more than seasonal declines were confined to the middle-western States. Drought conditions during July and August forced mid-

western producers to liquidate flocks almost as heavily as during the drought of 1934. The effect of heavy culling was a 100 percent increase over 1935 in receipts of young stock at mid-western packing plants during the first 3 weeks of August and a sharp drop in egg receipts. Some production improvements may occur in this area once the drought is fully broken, but in view of past extensive liquidation of farm flocks and more selling likely to be done no major improvement in egg production in this area can be expected until next spring. Egg producers on the West coast and in the East have not suffered severely from the drought outside of higher prices for feed. Short periods of hot weather checked production but because of moderately favorable range conditions producers have been able to carry their young stock, and culling of flocks in this area has not been more than usual. Liberal supplies from these two areas have in part offset declines from the important mid-western area and were a factor in causing declines in wholesale prices at New York and Chicago during August.

EGG prices to consumers advanced 3.6 cents to 39.1 cents per dozen from July 14 to August 18 as a result of higher wholesale prices in late July, and the usual time lag between wholesale and retail price changes. This advance brought egg prices to about 1.5 percent above prices a year ago, a reversal of the situation in June and July when eggs were below 1935 prices. Part of the price advance was seasonal but higher feed prices, low storage supplies, and increases in consumer income were additional price boosting factors.

POULTRY receipts at major markets during August were over 50 percent heavier than a year ago as drought conditions and high feed prices caused heavy culling of farm flocks in the Middle West. Poultry receipts usually increase slightly from July to August but the increase this year was more than usual and a large part of the supplies moved into cold storage. The major part of this increase in receipts was in young chickens so that price declines were not equal for different classes of chickens. Due to larger supplies retail prices of roasting chickens moved down about 0.5 cent to 33.3 cents per pound from July 14 to August 18, but prices are still 10 percent above a year ago. Poultry prices are expected to exhibit more than seasonal declines until the end of the year.

BUTTER supplies during the coming fall and winter are expected to be less than a year ago and probably will be about as low as in 1934-35. Shortage of feed supplies and generally poor pastures have caused production to drop to new low levels. During July, butter production was 32 million pounds below July 1935, a 17 percent decline and the lightest July production since 1923. Current reports on production indicate some improvements in scattered areas but conditions continue to be generally unfavorable. Storage stocks cannot be relied on to offset the deficiency in production for August 22, stocks at 26 storage centers were at their lowest point since weekly reports were started in 1924. Cheese and evaporated milk production also exhibited more than seasonal declines from June to July due to the falling off of milk production, with production of these products also below 1935 levels.

RETAIL prices of all dairy products advanced from July 14 to August 18 with the large changes occurring in the drought-affected North Central States. Fresh milk advanced about 0.5 cent a quart. Price advances occurred in 22 cities with 19 reporting advances of 0.9 cent or more per quart. Farmers claimed that price advances were necessary due to higher cost of feeds. Butter prices moved up 2.5 cents to 42.5 cents per pound while cheese was 1.6 cents a pound higher and cream about 1 cent a half pint higher. At present levels butter is 36 percent higher than a year ago, cheese 10 percent, and milk 5 percent higher.

CANNED vegetable supplies are expected to be about 12 percent less than the large supply in 1935-36 but 16 percent above the drought year 1934-35. Not all crops were equally affected by the drought. Supplies of canned snap beans, beets, sweet corn, and peas will be reduced considerably below the large supply in 1935 but supplies of canned spinach, tomatoes, tomato juice, and lima beans will be above normal. Primarily due to drought conditions, the retail price of No. 2 size canned corn went up 0.6 cent while canned green beans and canned peas advanced 0.4 and 0.3 cent a can.

MEAT supplies, per capita, from July 1, 1936, to June 30, 1937, are expected to be slightly larger than a year ago. Increases in supplies of lamb and pork are expected to fully offset declines in beef. While per capita supplies will

probably be larger, consumers will find that a much larger than usual proportion of supplies will come to market during the first half of this year and this should mean larger than usual price declines during this period.

CATTLE and calf shipments from the western cattle areas the remainder of the year are expected to be about 800,000 head, or 15 percent, above the relatively large shipments during the corresponding period in 1935. All of this increase is in States where the drought reduced feed supplies, for marketings from other States are expected to be about the same or smaller than a year ago. Abundant rainfall and improved feed prospects during the next few months may decrease the size of shipments but cannot eliminate the necessity for continued heavy marketings. During August, cattle and calf receipts at major markets were 20 to 30 percent larger than during July and a year ago. A large proportion of these receipts were medium weight and weighty grain-fed cattle.

BEEF prices to consumers advanced during the 5-week period, but prices of all cuts remained 8 to 15 percent below retail prices a year ago. Major changes were limited to the more expensive round and sirloin steaks, which went up over 0.5 cent a pound. Rib and chuck roast were only 0.2 cent per pound higher while plate beef and liver showed declines of a similar amount.

HOG receipts at major markets during August dropped sharply from their higher July figure but remained 50 percent heavier than the small supplies a year ago. A large proportion of the increased supply was composed of light butcher hogs and pigs. Corn prices have gone up faster than hog prices, and this together with the smallest corn crop in 50 years has hastened marketing of pigs from the spring crop. According to the summer hog outlook, hog slaughter from October 1, 1936 to September 30, 1937, is expected to be 10 to 20 percent larger than in 1935-36 and in 1934-35. Total supplies for marketing this year would have been increased further if the drought had not curtailed feed production and caused farmers to alter fall farrowing plans. The seasonal distribution of marketings this year is likely to be much different than in the past 2 years with October to December slaughter comprising a larger than usual proportion of the total slaughter.

[Concluded on page 23]

MEASURING CHANGES IN CONSUMERS' REAL INCOME

(Continued from page 13)

as an indicator of the difficulty workers are having in getting jobs at adequate wages in industry, cannot be made between the present and March 1933 or earlier periods because in those periods there was no provision made by the Federal Government for the direct relief of people left jobless or with earnings at starvation level.

SO MUCH for income. Now turn to the other side of the picture—the cost of living. Only when these two indicators of change—income and costs—are brought together can we get a measure of changes in standards of living.

LIVING COSTS of workingmen's families were lower in the early months of 1933 than at any time since such cost estimates were first made by the Government in 1919. Since March 1933 these costs have mounted until in July 1936 they were 12 percent higher; that is, for every \$100 workers had to spend for these necessities in the trough-period of the depression, they now have to spend \$112 to buy the same goods and services. Living costs in July 1936 still stood, however, considerably under the pre-depression level. They were 18 percent less than costs in September 1929, and the same amount under average costs for the years 1924-29. Put another way, basic necessities of living which cost workingmen's families \$100 in September 1929 and in the years 1924-29, could be purchased in July 1936 for \$82.

NOT all items in family budgets—as most families know—have changed in cost at the same rate as have average living costs. Food has shown much more drastic changes in cost—both during the depression and since the upturn in activity. In March 1933, 58 cents would buy as much food as a dollar would buy in the years 1924-29 and as much as \$1.04 would buy in September 1929. Three years later, in July 1936, food costs were 40 percent higher than in March 1933; that is, it now takes \$1.40 to buy the food which \$1 would buy in March 1933.

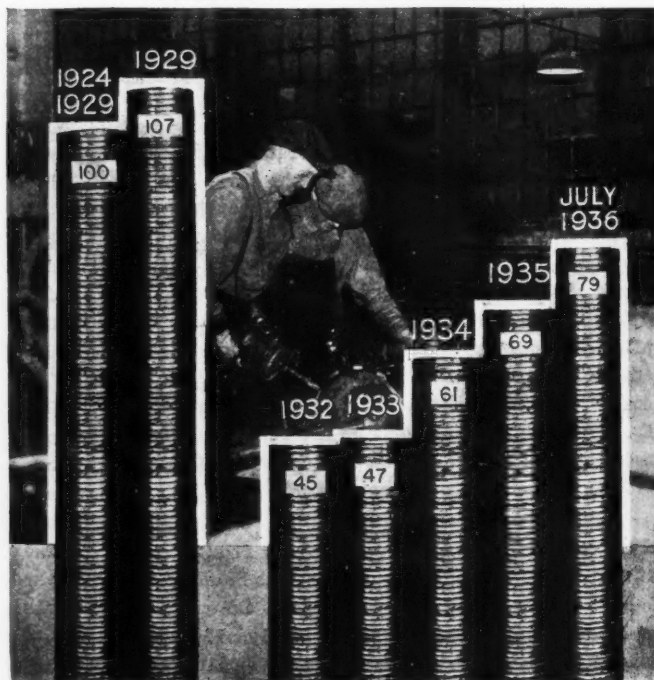
DESPITE this major advance in food prices since depression lows, food still costs less than it cost in 1929 or in the average years 1924-29. In July 1936, 81 cents would buy as much food as \$1.04 would buy in September 1929 or \$1 would buy in the average period.

COMPARED with the see-saw in food costs, costs of other items in the family budget have moved relatively little and because these other items take about two-thirds of the family's income their cost-changes counterbalance to a large degree the severity in food cost changes. All living costs but food increased less than 3 percent between March 1933 and July 1936, and in the latter month were 16 percent under their September 1929 level.

PRICES WHICH are changing more rapidly than others have a way of getting into the headlines and attracting attention to themselves. Prices which stay at a fairly even level are taken more for granted. To get a fair perspective on the expensiveness of the goods whose prices move more drastically, a good rule is to compare them with the more slowly moving prices.

TAKE food prices as an example. Back in September 1929 food costs were 5 points higher

FACTORY PAY-ROLLS



than the level of all other living costs (in comparison with their 1924-29 averages). In March 1933, after food had become relatively cheap, food prices were 23 points lower than other living costs. Now, with food up again and other living costs only slightly up, food is 1 point under these other costs. In other words, even with today's higher food prices, food costs take a slightly smaller proportion of the family's income than in the more "prosperous 1929."

COMBINING, now, urban consumer income with total living costs, an estimate can be made of consumers' purchasing power, consumers' true measure of living standards. Because living costs in July 1936 bear the same relation to urban consumers' income as they bore in the years 1924-29, purchasing power of city consumers with incomes today is as great as it was in that base period. Urban consumers as a group—not considering the change in their number—are as well off now as they were in those earlier years. They are much better off than in March 1933. At that time, purchasing power of urban consumers was 20 percent lower than it is now.

WORKERS in factories as a group have had their purchasing power boosted even more. Between March 1933 and July 1936 it was doubled, and on the latter date was 13 percent below the September 1929 level and 4 percent under the level of purchasing power in the years 1924-29.

YOUR FOOD COSTS AND SUPPLIES

[Concluded from page 21]

RETAIL pork prices continued their upward movement from July 14 to August 18, but the advance was smaller than occurred at this time last year. Pork chops advanced about 1 cent a pound, while loin roast went up half that amount. Bacon prices increased 0.2 cent per pound and ham was 0.75 cent higher. During the same period a year ago price advances ranged from 1 to 5 cents per pound with the heaviest increases in the smoked products. Compared with a year ago, retail prices of all products are lower, with fresh pork down 12 percent, bacon 9 percent, and ham 1 percent.

LAMB receipts during August were almost as large as a year ago and considerably above July. However, quality continued poor and many of the grass-fed lambs were little more than half

fat. Heavy August receipts were due to a close to record 1936 lamb crop and a relatively small movement of these lambs up to August 1. As a result of these factors, lamb marketings are expected to continue heavy during the remainder of 1936, with peak movement in October.

RETAIL lamb prices declined from July 14 to August 18, but lamb prices were still about 12 percent above the same period in 1935. Chuck and leg of lamb registered the sharpest declines, going down about 1 cent per pound, while breast of lamb was 0.3 cent per pound lower. The wholesale price of good dressed lamb went down about \$3 per 100 pounds in Chicago during August and further seasonal price declines may be expected.

NEW PRODUCTS FROM OLD CROPS

FINDING new uses for agricultural products, by-products, waste products, and surpluses is one of the main functions of the United States Department of Agriculture. Research scientists at the Department work constantly to improve products and extend their present uses.

COTTON has been on the study list for many years. Numerous projects have been completed, while others are still being worked on. The new uses for cotton are of wide and varied application. A few years ago, for example, the Department developed and introduced a special cotton fabric affording protection against rain and snow for children's outdoor winter play suits.

FRUITS and nuts are beginning to appear on the market packed in open-meshed cotton bags. These bags, as well as combination open- and close-mesh bags for packing citrus fruits, potatoes, onions, and nuts, were also developed by the Department. Further study helped to develop cotton fabrics for barrel top covers, as containers for raw and refined sugar, and as foundation for hooked rugs.

LATER experiments resulted in the use of cotton fabric for reinforcing bituminous surfaced roads. The cotton diversion program of the Agricultural Adjustment Administration is using some of the fabric for this purpose. New uses for cotton should eventually mean increased demand for the raw material and more returns for cotton farmers.

Our Point of View

THE CONSUMERS' GUIDE believes that consumption is the end and purpose of production.

To that end the CONSUMERS' GUIDE emphasizes the consumer's right to full and correct information on prices, quality of commodities, and on costs and efficiency of distribution. It aims to aid consumers in making wise and economical purchases by reporting changes in prices and costs of food and farm commodities. It relates these changes to developments in the agricultural and general programs of national recovery. It reports on cooperative efforts which are being made by individuals and groups of consumers to obtain the greatest possible value for their expenditures.

The producer of raw materials—the farmer—is dependent upon the consuming power of the people. Likewise, the consumer depends upon the sustained producing power of agriculture. The common interests of consumers and of agriculture far outweigh diversity of interests.

While the CONSUMERS' GUIDE makes public official data of the Departments of Agriculture, Labor, and Commerce, the point of view expressed in its pages does not necessarily reflect official policy but is a presentation of governmental and nongovernmental measures looking toward the advancement of consumers' interests.

Issued by the CONSUMERS' COUNSEL of the
AGRICULTURAL ADJUSTMENT ADMINISTRATION
in cooperation with the
BUREAU OF AGRICULTURAL ECONOMICS
BUREAU OF HOME ECONOMICS
BUREAU OF LABOR STATISTICS

Washington, D. C.

Vol. III, No. 16

September 7, 1936
